

AMENDMENTS TO THE DRAWINGS

A Replacement Sheet is being submitted herewith for Figure 8. In the replacement sheet, reference character “8” has been replaced with reference character “8a” in order to separately label the “suspension holder” and “damper”. No new matter has been added.

REMARKS

Upon entry of this amendment, claims 10-18 are pending in this application. Claims 1-9 have been cancelled without prejudice or disclaimer of the subject matter therein. Claims 10-18 are newly presented. No new matter has been added. In view of the above amendments and the following remarks, reconsideration and further examination are requested.

Initially, Applicant notes that a number of editorial amendments have been made to the specification and abstract to facilitate further examination. The amendments to the specification and abstract are incorporated in the attached substitute specification and abstract. No new matter has been added. Also enclosed is a marked-up copy of the original specification and abstract showing the changes incorporated into the substitute specification and abstract. This enclosure is captioned "**Version with markings to show changes made.**"

Also, a Replacement Sheet for Figure 8 has been submitted to separately label the "suspension holder" and the "damper." In particular, reference character "8" has been replaced with reference character "8a." No new matter has been added. Approval and entry of the Replacement Sheet are respectfully requested.

On pages 2-3 of the Office Action, original claims 1-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kreitmeier et al. (U.S. 2004/0165746; hereinafter "Kreitmeier") in view of Tanabe (U.S. 6,776,694). This rejection is considered moot in view of the cancellation of claims 1-9. Further, it is submitted that this rejection is inapplicable to the new claims for at least the following reasons.

New independent claim 10 recites a speaker comprising, inter alia, a frame; a diaphragm fixed to the frame by a first edge; a suspension holder fixed to the frame by a second edge; a magnetic circuit including a yoke with a columnar protrusion, a ring-shaped magnet, and a ring-shaped plate. The components of the speaker are arranged such that outer periphery of the magnet extends beyond a center of a width of the second edge, and the inner periphery of the ring-shaped plate and the columnar protrusion extend into the frame from the lower surface to an

area within the frame midway between the lower surface and an opening on the upper portion of the frame.

In some conventional speakers, a wave-shaped damper (8) and a first edge (6) are provided to form a suspension for minimizing the load on the voice coil (4) (See Fig. 5). However, the conventional suspension prevents reduction of harmonic distortions and, thereby, compromises enhancement of the speaker's performance (Specification, p. 1-3). In more recent designs, the damper has been replaced by an annular suspension holder (8a) fixed to the speaker frame by a second edge (6a) (Fig. 8, Specification, p. 3-4). While recent designs facilitate reduction of harmonic distortion, the size and position of the magnetic circuit (1) reduces the driving force of the voice coil, potentially compromising audio output. The speaker of present invention, on the other hand, has small harmonic distortion and increased audio output due to at least a portion of the magnetic circuit being outside of the frame, and the magnet of the magnetic circuit having an outer periphery extending at least beyond a center of a width of the second edge fixing the suspension holder to frame. (Original Abstract; Specification, p. 4). Applicants respectfully submit that the prior art of record fails to disclose or suggest the features specifically required by the present claims, and that the absence of such features is consistent with the inability of the prior art speakers to offer the advantages of the present invention.

In the Office Action, the Examiner recognized that Kreitmeier does not disclose or suggest a magnet having an outer periphery extending beyond a center of a width of the second edge, as specifically required by claim 10. The Examiner, however, applied Tanabe in an attempt to cure this deficiency of Kreitmeier, indicating that the outer periphery of the magnet (4) "extends beyond the frame step and therefore the center of the second edge." Although Tanabe discloses a magnet (4) extending beyond the frame step, it is submitted that such disclosure cannot be relied upon to render obvious a magnet extending past a center of a width of a second edge. In particular, the speaker disclosed by Tanabe is similar to the first conventional speaker discussed in the Applicant's Disclosure¹, and includes a diaphragm (8) and

¹ See Fig. 5; Specification, p. 1-2 (noting that the dampers been replaced in recent years by suspension holders, such as those in the present invention, to reduce harmonic distortions).

a wave-shaped damper which is directly mounted the frame (10) (Fig. 2; Col. 5, line 16). In contrast to the present invention, Tanabe's speaker is not equipped with a suspension holder, or a second edge for fixing a suspension holder to the frame. Therefore, it is believed apparent that Tanabe cannot teach or suggest a magnet having an outer periphery that extends beyond a center of a width of a second edge as specifically required by claim 10, or thereby offer the same reduction in harmonic distortion as the present invention.

Further, while Kreitmeier and Tanabe each disclose a speaker with a ring-shaped plate and a columnar protrusion, neither reference discloses or suggest a speaker wherein the inner periphery of the plate and the columnar protrusion extend to an area within the frame midway between the lower surface and the upper opening, as specifically required by claim 10. To be sure, in Kreitmeier, the ring-shaped plate (between magnet 12 and frame 11) and the columnar protrusion (proximate reference character 13) are completely outside of the frame (Fig. 2), similar to the second speaker described in the Disclosure (See Fig. 8). In Tanabe, the annular plate (32) and columnar protrusion (2) extend into the frame, but do not reach an area of the frame midway between the upper opening (receiving 8) and the lower surface (S) (Fig. 2).

In view of the above, the Applicant respectfully submits that Kreitmeier and Tanabe, either alone or taken in combination, do not disclose or suggest the above-noted features of claim 10. Furthermore, it is submitted that the differences are such that a person of ordinary skill in the art would not have found claim 10 obvious over Tanabe and Kreitmeier in view of any of the remaining references of record. Therefore, claim 10, as claims 11-18 which depend therefrom, are believed to be patentable over the references of record.

Accordingly, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may best be resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

Osamu FUNAHASHI

By: 

W. Douglas Hahm

Registration No. 44,142

Attorney for Applicants

KAM(WDH)/vah
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
October 17, 2008